

CLAIMS

The embodiments of the invention in which an exclusive property or right is claimed are defined as follows. Having thus described the invention
5 what is claimed is:

1. An injection molding method, comprising the steps of:

providing a mold having a mold cavity formed therein;

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locating an electrical circuit within said mold cavity, wherein said electrical circuit comprises electrical components assembled to an electrical circuit board prior to any molding operations thereof;

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injection molding a plastics material into said mold cavity of said mold, wherein said plastics material covers and seals said electrical circuit to provide insulation and environmental protection to said electrical circuit.

2. The method of claim 1 further comprising the step of:

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integrating said electrical circuit with a latch mechanism, wherein said electrical circuit communicates electrically with said latch mechanism.

3. The method of claim 1 further comprising the step of:

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configuring said mold to provide a mold form geometry that permits a plurality of components to be connected electrical to said electrical circuit and an associated latch mechanism after said injection molding of said plastics material into said mold cavity.

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4. The method of claim 3 further comprising the step of:

configuring said mold form geometry to comprise at least one gap in which an additional component can be located.

5. The method of claim 3 further comprising the step of:

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configuring said mold form geometry to possess at least one mounting surface feature.

6. The method of claim 3 further comprising the step of:

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configuring said mold form geometry to possess at least one pivot feature.

7. The method of claim 3 further comprising the step of:

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configuring said mold form geometry to possess at least one flange feature.

8. The method of claim 3 further comprising the step of:

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configuring said mold form geometry to possess at least one seal feature.

9. The method of claim 3 further comprising the step of:

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configuring said mold form geometry to possess at least one mating feature.

10. An injection molding method for electrical circuit, said method comprising the steps of:

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providing a mold having a mold cavity formed therein;

locating an electrical circuit within said mold cavity, wherein said electrical circuit comprises electrical components assembled to an electrical circuit board prior to any molding operations thereof;

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injection molding a plastics material into said mold cavity of said mold, wherein said plastics material covers and seals said electrical circuit to provide insulation and environmental protection to said electrical circuit.

10 integrating said electrical circuit with a latch mechanism, wherein said electrical circuit communicates electrically with said latch mechanism; and

configuring said mold to provide a mold form geometry that permits a plurality of components to be connected electrical to said electrical circuit
15 and said latch mechanism after said injection molding of said plastics material into said mold cavity.

11. The method of claim 10 wherein said latch mechanism comprises a vehicle door latch of a vehicle door latch assembly.

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12. An injection molding system, comprising:

a mold having a mold cavity formed therein;

25 an electrical circuit comprising an electrical circuit board, which is locatable within said mold cavity; wherein said electrical circuit board comprises electrical components assembled to said electrical circuit board prior to any molding operations thereof;

30 an injection molding mechanism for injection molding a plastics material into said mold cavity of said mold, wherein said plastics material covers and seals said electrical circuit to provide insulation and

environmental protection to said electrical circuit.

13. The system of claim 1 further comprising:

5 said electrical circuit integrated with a latch mechanism, wherein said electrical circuit communicates electrically with said latch mechanism.

14. The system of claim 12 wherein said mold comprises a mold form geometry that permits a plurality of components to be connected electrical to
10 said electrical circuit and an associated latch mechanism after said injection molding of said plastics material into said mold cavity.

15. The system of claim 14 wherein said mold form geometry comprises at least one gap in which an additional component can be located.

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16. The system of claim 14 wherein said mold form geometry comprises at least one mounting surface feature.

17. The system of claim 14 wherein said mold form geometry comprises
20 at least one pivot feature.

18. The system of claim 14 wherein said mold form geometry comprises at least one flange feature.

25 19. The system of claim 14 wherein said mold form geometry comprises at least one seal feature.

20. The system of claim 10 wherein said latch mechanism comprises a vehicle door latch of a vehicle door latch assembly.

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